DOCUMENT RESUME

ED 404 536 CE 073 562

TITLE	Missouri Comprehensive Guidance Program Evaluation Project: Phase IV. Final Report.
INSTITUTION	Missouri Univ., Columbia.
SPONS AGENCY	Missouri State Dept. of Elementary and Secondary Education, Jefferson City. Div. of Vocational and Adult Education.
PUB DATE	30 May 95
NOTE	39p.; For a related document, see ED 362 743.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Career Education; *Career Guidance; *Competence; Competency Based Education; *Curriculum Evaluation; Educational Quality; Evaluation Methods; *Guidance Programs; High Schools; Norm Referenced Tests; Program Effectiveness; *Student Evaluation
IDENTIFIERS	Missouri

ABSTRACT

A study reported on progress in developing statewide norm-referenced evaluation scales for high and middle school students. Phase IV goals were to develop and try out a guidance curriculum results evaluation survey format for use by local school district personnel and to explore ways to analyze and use Missouri School Improvement data to understand the possible links between high quality guidance programs as perceived by school faculty and staff, students, and parents and students' self-efficacy and their mastery of guidance competencies. Students in regular classrooms--3,224 high school and 3,271 middle school students--completed the survey. Study results demonstrated clearly that the factor structure of self-efficacy ratings of these guidance competencies replicated an assignment by school professionals who developed the Missouri Comprehensive Guidance Program (MCGP) of guidance competencies into categories and three scope and sequence areas and supported the correspondence between student organization of categories into one of three factors and prior expert assignment of categories to one of three areas within the MCGP scope and sequence and the use of the statewide, norm-referenced guidance competency self-efficacy scales as pre/post measures to aid in evaluating the impact of guidance classroom activities. (Appendixes include a list of 23 references, 3 tables, a draft version of the reporting format, draft of a results evaluation framework, and advance questions to the Board of Education). (YLB)

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ED 404 536

Final Report

Missouri Comprehensive Guidance Program
Evaluation Project: Phase IV
July 1, 1994 to June 30, 1995

The goals of Phase IV were to (1) develop and tryout a guidance curriculum results evaluation survey report format for use by local school district personnel, and (2) to explore ways to analyze and use Missouri School Improvement data to better understand the possible links between quality guidance programs as perceived by school faculty and staff, students, and parents and students' self efficacy and their mastery of guidance competencies.

Using the data collected during the field testing of the surveys that took place during the 1993-1994 school year, the data was analyzed and a format for results reporting was developed during 1994-1995. Attachment A is an article submitted to a professional journal that details how the data was processed and the results of that processing completed during the contract period. Attachment B represents a draft version of the reporting format we plan to make available to the schools during the 1995-1996 school year. The surveys will be available to schools through the Assessment Resource Center (ARC) at the University of Missouri-Columbia. The surveys and the reporting of the results will be provided to the schools by ARC on a cost recovery basis.

In addition to the use of Surveys to measure the impact of guidance curriculum units, additional results evaluation procedures are being suggested. Attachment C is a draft of a results evaluation framework that will be more fully developed and made available to school counselors in Missouri this fall to guide them in the results evaluation process as it unfolds in their schools.

Work on the second goal--the analysis of the Missouri School Improvement data--was undertaken during Phase IV. We have accomplished the following:

1. A system was developed to organize the data that is collected from staff prior to the visit of the Missouri School Improvement Team concerning their perceptions of the degree to which guidance programs are in place and operating. (See Attachment D)

2. Beginning analyses were completed to test the best ways to analyze the data.

Work on the second goal will continue into Phase V based on what was learned during Phase IV.

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ATTACHMENT A

Running head: GUIDANCE COMPETENCY SCALES

Developing Guidance Competency Self-Efficacy Scales for High School and Middle School Students

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Submitted May 30, 1995

This research was funded by a grant from the Missouri Department of Elementary and Secondary Education (DESE). Special thanks to Marion Starr, Director of Guidance and Placement, DESE and Dr. Russell McCampbell, Assistant Commissioner of Adult and Vocational Education, DESE, for their continued support and expertise. We also greatly appreciate assistance from the many school counselors, administrators, and students in the schools of Missouri without whom this project could not have been completed. Correspondence regarding this manuscript should be sent to Richard T. Lapan, University of Missouri-Columbia, Department of Educational and Counseling Psychology, 16 Hill Hall, Columbia, MO 65211.

Abstract

Research on the development of statewide, norm-referenced guidance competency self-efficacy scales for high school (n = 3,224) and middle school students (n = 3, 2771) is reported. Results support the use of these scales as pre/post measures to aid in evaluating the impact of guidance curriculum classroom activities.

Developing Guidance Competency Self-Efficacy Scales for High School and Middle School Students

Nationally and internationally, guidance in elementary, middle, and high schools is changing. Organizationally, it is rapidly becoming a program that is equal in importance to other educational programs. Guidance in the schools is moving from the margin to the mainstream of education; from a position orientation to a developmental program with a student competency base of it's own (Conger, 1994; Gysbers & Henderson, 1994).

In Missouri, the change in guidance began in 1984 with the development of the Missouri Comprehensive Guidance Program (MCGP), a collaborative effort by school counselors, administrators, state guidance officials, and university counselor educators/psychologists. Building on earlier research and development work (Gysbers, 1978; Gysbers & Moore, 1974; Gysbers & Moore, 1981; Hargens & Gysbers, 1984), the MCGP was designed to assist school districts to "plan, develop, implement, and evaluate comprehensive and systematic guidance programs in kindergarten through grade twelve" (Starr & Gysbers, 1993).

The assumptions upon which the MCGP rest are as follows: (a) it reaches all students; (b) it provides a program approach to guidance; (c) it provides for program accountability; (d) it enables school counselors to devote full time to the guidance program through the elimination of non-guidance tasks; and (e) it identifies guidance competencies to be achieved by students through their participation in the guidance program (Starr & Gysbers, 1993). The guidance competencies of the program are grouped into three areas, i. e., Career Planning and Exploration, Knowledge of Self and Others, and Educational and Vocational Development. Within each area, guidance competencies are then grouped by categories and arranged by grade level groupings K-3, 4-6, 6-9, and 9-12. Suggested guidance classroom activities to assist students in achieving these competencies are available to all school counselors in activity boxes that correspond to the four grade-level groupings (Missouri Department

of Elementary and Secondary Education, 1992).

Since 1984, school counselors and administrators in over 400 of the 546 school districts in Missouri have been trained in and are involved in implementation of the program. In 1994, the Missouri Department of Elementary and Secondary Education estimated that approximately 346,000 students in K-12 were participating in various guidance classroom activities as a part of their participation in the overall guidance programs of their schools. As implementation continued, the need to develop a framework to assist Missouri school counselors and administrators evaluate the MCGP became apparent. Gysbers, Hughey, Starr, and Lapan (1992) proposed such a framework to include program, personnel, and results evaluation. Currently, standards to assess the degree to which a program is in place in a district ~~has~~ have been included in the Missouri School Improvement Program (the statewide accreditation system) and personnel supervision and evaluation forms are available and are being used in the schools of Missouri.

Attention has now turned to the results part of the evaluation framework with specific attention being given to the guidance curriculum component. Research has shown that guidance curriculum activities tend to have a positive impact on student development (Evans & Burck, 1992; Gerler, 1985; Lapan, Gysbers, Hughey, & Arni, 1993; Lee, 1993; St. Clair, 1989). However, Gerler (1985) pointed out that in order to demonstrate program accountability school counselors need practical and effective ways to assess the impact of guidance curriculum activities on student attainment of guidance competencies in their own schools. Reliable and valid scales are needed to collect data that could have a direct impact at the local level and significance at the state and national level for guidance program development. The purpose of this study is to report on our progress in developing statewide norm-referenced evaluation scales for high school and middle school students. These scales could be used to assess the impact of guidance curriculum activities on student-perceived mastery of these guidance competencies.

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Scale Development Background

In the early 1980's as part of the development of the MCGP, teams of school counselors, administrators, teachers, state officials, and counselors educators/psychologists constructed guidance competencies for elementary, middle, and high school students. These competencies were then categorized by professional judgement and placed into one of three major guidance curriculum content areas: Area I: Career Planning and Exploration, Area II: Knowledge of Self and Others, and Area III: Educational and Vocational Development. For example, at the high school level there are 99 competencies, each of which are assigned to one of 16 categories. The competency "I can handle adult disapproval if I enter a career usually chosen by a member of the opposite sex" was placed in the category "Understanding How Being Male or Female Relates to Jobs and Careers". This particular category was assigned to Area I: Career Planning and Exploration within the MCGP curriculum scope and sequence (Starr & Gysbers, 1993).

Once the MCGP scope and sequence was completed, the next step was to develop a practical means to assess student mastery of guidance competencies. Bandura's (1977) self-efficacy construct provided an empirically supported strategy to anchor our measurement approach. Task-specific, self-reported efficacy ratings have proven extremely useful in previous research studies whose content covers many of the same constructs identified in the guidance curriculum scope and sequence, (Betz & Hackett, 1981; Hackett, 1985; Lapan, Boggs, & Morrill, 1989; Multon, Brown, & Lent, 1991). Building upon these previous strategies for measuring self-efficacy expectations, guidance competencies for grade level groupings of 6-9 and 9-12 were placed on a Likert scale to assess a student's belief in their ability to successfully perform each task-specific competency. Developing psychometrically sound instruments to measure student-perceived ability to successfully perform guidance competencies would provide school counselors with a practical means to gather valuable data from students. Such scales could be administered in relatively short periods of time and easily fit into

the classroom schedules of guidance curriculum interventions.

Subsequent research has supported the utility of these ratings (Hughey, Lapan, & Gysbers, 1993; Lapan, Gysbers, Hughey, & Arni, 1993; Multon, Heppner, & Lapan, in press; Multon & Lapan, 1995). Lapan et al. found that in an integrated guidance/language arts classroom unit for high school juniors, student-perceived mastery of those guidance competencies targeted by this unit predicted significant gains in vocational identity. In turn, vocational identity scores predicted higher English grades for this unit. These grades were based on demonstrated writing/composition skills required by the language arts teachers. In the path analysis, this path predicted unique variance in English grades and was statistically independent of standardized achievement test scores for students. Self-efficacy ratings of guidance competencies were also sensitive to differential program effects for young women.

In a qualitative study of some of the same students who participated in the Lapan, et al. study, Hughey, Lapan, & Gysbers (1993) reported that student responses in an open-ended interview format mirrored conclusions about program effectiveness based on the guidance competency self-efficacy ratings. In another sample of middle and high school students (Multon & Lapan, 1995), exploratory factor analysis supported the assignment of guidance competency self-efficacy ratings to prgram categories as predicted from the MCGP scope and sequence. Also, self-efficacy ratings of specific guidance competencies were consistently and positively related to both academic and non-academic indices of self-concept. Students who felt less efficacious about guidance competencies in Area II: Knowledge of Self and Others had significantly more referrals to the principal's office for behavioral problems, (Multon & Lapan, 1995).

Multon, Heppner, and Lapan (in press) found that greater perceived efficacy for mastering guidance competencies was an important predictor in discriminating between career decision subtypes in high school students. Students with higher levels of self-efficacy ratings also reported greater

levels of career decidedness, comfort with one's career decision status, self-understanding regarding careers, knowledge about a variety of occupations, and understanding of the importance of career decision-making. Lower self-efficacy ratings corresponded with lower expectations for achieving life goals. Students with lower self-efficacy expectations also were more likely to focus on negative aspects of themselves and were less likely to report higher levels of energy, concentration, and alertness. Multon and her colleagues also found that the guidance competency ratings were unrelated to sex, race, and social desirability ratings.

Hypotheses

Building upon theory and prior research, the following hypotheses were tested:

1. In a representative sample of Missouri middle and high school students, the factor structure of student guidance competency self-efficacy ratings will support prior assignment of competencies to the categories and areas of the MCGP scope and sequence. For each group of competencies, previously assigned to a category, principal components analyses will support the unidimensional nature of each set of items. Next, a second order factor analysis of category scores will support prior assignment of categories to one of the three areas in the MCGP scope and sequence. We predict that student judgements, at both the middle and high school level, will agree with prior decisions by school professionals who developed the MCGP scope and sequence.

2. Within each category, competency ratings will demonstrate high internal consistency.

3. Ceiling effects will not encumber categories from being able to measure pre/post changes.

4. No significant gender differences will be found.

5. No significant age differences will be found.

6. African-American and Caucasian-American students will not score significantly different from each other across each guidance category.

Method

Participants

High School Students. Nearly equal numbers of young men (n = 1,627) and women (n = 1,597) participated. The mean age of the 3,224 high school students was 16.40 (SD = 1.16) years. The ethnic/racial makeup of the sample was as follows: Caucasian Americans 86.9%; African Americans 10.3%; Hispanic Americans 1.3%, American Indians .8%, and Asian Americans .8%.

Middle School Students. Of the 3,271 middle school participants, 1,655 were boys and 1,616 were girls. Their mean age was 13.47 (SD = 1.14) years with a racial/ethnic makeup as follows: Caucasian Americans 79.6%, African Americans 15.0%; Hispanic Americans 1.9%; American Indians 1.7%, and Asian Americans 1.8%.

Measure

Missouri Guidance Competency Evaluation Survey (MGCES). The MCGES (Form for Grades 9-12 and Form for Grades 6-9; Gysbers, Lapan, Multon, & Lukin, 1992a, 1992b) assesses self-efficacy beliefs for guidance competencies in the three major areas of the MCGP scope and sequence. These three areas are: Area I: Career Planning and Exploration; Area II: Knowledge of Self and Others; and Area III: Educational and Vocational Development. The high school form contains 29 items in Area I, 25 items in Area II and 44 items in Area III. The middle school form contains 10 items in Area I, 31 items in Area II, and 21 items in Area III. On both the high school and middle school forms, competencies are not listed under scope and sequence categories. Instead, within each area, items are randomly arranged and written on a 7-point Likert scale (1 = very low level of confidence; 7 = very high level of confidence). In addition, the cover sheet of both forms contains questions pertaining to student name, gender, grade, ethnic heritage, birth date, and a county-district code that can be provided by the school counselor if needed.

Procedures

To fairly represent the diversity of students and schools in Missouri, a stratified random

sampling procedure was used to select the high school and middle school students. Statewide testing services in Missouri provided us with eleven geographic/demographic areas from which to choose students. These eleven categories have been developed to equitably represent the diversity of Missouri schools in terms of a number of critical variables, e.g urban/suburban/rural setting and family income. Care was taken to select both schools that have been active in comprehensive guidance state initiatives and those that had not. Schools were randomly selected from each of the eleven categories. Data was collected on students from thirty-two school districts and 98 schools in Missouri. A school counselor, in each selected school, was asked to participate in this project. Counselors were assigned grades and instructed to have students, in each class within that grade, complete the survey. Counselors collected the data by going into classes and having students complete the survey following the set of standardized instructions we provided.

Results

While each of the MCGES forms (Grades 9-12 and Grades 6-9; Gysbers et al., 1992a, 1992b) contains competencies from the three major scope and sequence areas, the number of competencies and categories within each area differ for the two levels. Therefore, the results of the factor analyses and internal consistency estimates are reported separately for each of the forms. Finally, the correlations of each form with basic demographic data is reported.

Second Order Factor Analysis and Internal Consistency Estimates for the High School Form

Principal components analyses were run for each subset of the 99 high school competencies previously assigned to the 16 program content categories by the developers of the MCGP. For example, seven competencies comprise Category A: Planning and Developing Careers. A principal components analysis was conducted on these seven items. Raw score item means ranged from 4.47 to 5.35 with standard deviations from 1.33 to 1.43. Only one principal component with an eignenvalue $\geq$ 1.0 was found across those seven items (eigenvalue = 3.59; variance explained =

51%). Loadings, for the seven items in Category A, on this principal component ranged from .54 to .77. As predicted, each of the 16 categories for the high school form had only one statistically significant principal component. For each category, raw score item means, standard deviations, and factor loadings were very similar to the results reported above for Category A. Factor score means, standard deviations, and internal consistency estimates for each high school guidance curriculum category are reported in Table 1. To obtain factor mean scores, items were multiplied by their factor loadings, then summed and averaged within each category. Internal consistency estimates (thetas) for each category were very strong, ranging from .71 to .87.

Insert Table 1

Table 1 also reports results of a second order factor analysis, using a varimax rotation, of the 16 guidance category factor scores for the 3,224 high school students. As predicted, only three significant factors were found, (eigenvalues $\geq$ 1.0). These three factors explained approximately 65% of the variance in the 16 categories. Categories were assigned to factors if their factor loading was $\geq$ .40. Factor I (eigenvalue = 4.04) consisted of Categories I, E, G, M, and O. In the MCGP scope and sequence, all of these categories had been previously assigned by expert judgement to Area III: Educational and Vocational Development. Factor II (eigenvalue = 3.57) was defined by factor loadings obtained for Categories H, K, B, P, F, and C. Except for Category C: Understanding How Being Male or Female Relates to Jobs and Careers, the other five categories had been previously assigned to Area II: Knowledge of Self and Others. Factor III (eigenvalue = 2.93) consisted of Categories L, A, D, C, and N. All categories had been previously assigned to Area I: Career Planning and Exploration. In sum, the second order factor analysis supported the placement of guidance categories into one of the same three areas initially defined by those school professionals

who developed the MCGP. The only exception was Category C which had a significant factor loading in two of the three areas.

Second Order Factor Analysis and Internal Consistency Estimates for the Middle School Form

The analyses conducted for the high school form were duplicated for the middle school form. A principal components analysis was run for each subset of the middle school competencies previously assigned to 12 categories by school professionals who developed the MCGP scope and sequence. As was true for the high school survey, only one significant principal component was found for each category. Raw score item means, standard deviations, and factor loadings mirrored high school form results. Table 2 reports factor score means, standard deviations, and internal consistency estimates for each middle school program content category. Internal consistency estimates (thetas) for each category were also very strong for this form (range .71 to .88).

Insert Table 2

Table 2 also reports results of a second order factor analysis, using a varimax rotation, of the 12 guidance category factor scores for the 3,271 middle school students. As predicted, only three significant factor were found (eigenvalues $\geq$ 1.0). These three factors explained approximately 73% of the variance in the 12 categories. Categories were assigned to factors if their factor loading was $\geq$.40. Factor I (eigenvalue = 3.85) included Categories P, H, B, F, and J. All of these, except Category J, had been previously assigned by expert judgement to Area II: Knowledge of Self and Others. Factor II (eigenvalue = 2.84) was defined by Categories E, M, O, and A. All of these, except Category A, had been assigned to Area III: Educational and Vocational Development. Factor III (eigenvalue = 2.12) included Categories N, C, and A. All of these categories had been previously assigned to Area I: Career Planning and Exploration. In sum, the second order factor

analysis supported the placement of categories into one of the same three areas initially defined by professionals who developed the MCGP scope and sequence. Exceptions to this occurred for Category A which had significant loadings on both Area I and III and Category J which loaded on Area II but not on Area III as predicted.

Correlations of Categories from Each Form with Demographic Data

Correlations between guidance curriculum factor scores and the demographic variables of sex, race, and age are reported for both the middle and high school forms in Table 3. Ethnic/racial differences were examined only between African American and Caucasian American students because each of the other ethnic/racial groups comprised less than two percent of the sample of middle or high school students. Bonferroni corrections were computed separately for the middle and the high school correlation coefficients ($p = .05$ divided by 36 and 48, respectively) to reduce the probability of finding statistical significance by chance due to the large numbers of students in our samples and correlations being computed. Therefore, the p value of less than .001 was used for both samples to determine statistical significance. In addition, the very large sample sizes for both the middle and high school samples allowed very small correlation coefficients to reach the Bonferroni-corrected level of significance.

Insert Table 3

In the high school sample, young women reported greater confidence in understanding male/female issues related to careers, how to get along with others, the negative effects of drugs and alcohol, and marriage/family responsibilities. Young men felt greater confidence in understanding consumer and homeowner skills and in finding jobs. The variance explained by these significant relationships ranged from approximately 1% to 5% of the total variance for these categories.

Minimal differences between African and Caucasian students as well as age effects were found.

Table 3 also reports correlations between each guidance category and the demographic variables of sex, race, and age for middle school students. As was true for the high school data, several statistically significant relationships were found even with the Bonferroni correction. However, this was clearly due to the large sample size that allowed very small differences to reach statistical significance. Overall, both the middle and high school data supported the hypothesis that student competency ratings are relatively independent of bias due to sex, race, and age.

Discussion

As guidance establishes its importance and centrality to the educational mission of our schools, it must demonstrate impact and program accountability (Cougar, 1994; Gerler, 1985; Gysbers & Henderson, 1994). The guidance curriculum component of the MCGP is specifically designed to promote student achievement of guidance competencies. These competencies provide the MCGP with a programmatic scope and sequence for Grades K-12. Psychometrically sound and practically useful methods for measuring student progress towards mastering these competencies would enable counselors to collect essential program evaluation data. Counselors could use this information to identify effective interventions, demonstrate accountability, and advocate for their comprehensive guidance program at the local, state, and national levels (Gerler, 1985).

Results of this study clearly demonstrated that in a representative sample of Missouri middle and high school students, the factor structure of self-efficacy ratings of these guidance competencies replicated the prior assignment, by school professionals who developed the MCGP, of guidance competencies into categories and three scope and sequence areas. Principal components analyses were conducted on each subset of competencies previously assigned to one of 16 categories at the high school level and 12 categories at the middle school level. As predicted, only one significant principal component was found for each category at both the high school and middle school levels.

Category factor scores were than factor analyzed. Results strongly supported the correspondence between student organization of categories into one of three factors and prior expert assignment of categories to one of three areas within the MCGP scope and sequence. For both age groups, only three significant factors were found. High school students linked categories focusing on preparation to find a job, vocational selection and training, finding a job, learning about jobs from friends who have graduated, consumer and homeowner skills, and improving study skills. In the MCGP's scope and sequence, these categories comprise Area III: Educational and Vocational Development. High school students connected self-acceptance and understanding, getting along with others, knowing the negative effects of drugs and alcohol, learning about marriage/family responsibilities, decision making, and understanding gender issues in career decision making. All of these categories, except gender/career issues, constitute Area II: Knowledge of Self and Others. Students also linked together career planning, college decision making, high school class planning, use of leisure time, and understanding gender issues involved in career decision making. These categories comprise Area I: Career Planning and Exploration.

Similar second order factor analytic results for middle school students were found. For both age groups, strong communality estimates supported the importance of these three factors in explaining the majority of variance in each category (see Tables 1 and 2). Only three differences between the factor structure of student ratings and prior assignment of categories to the scope and sequence were noted. High school students connected gender issues involved in career decision making to both Area I: Career Planning and Exploration and Area II: Knowledge of Self and Others. In the middle school sample, the improvement of study skills was linked to Area II: Knowledge of Self and Others and planning and developing careers was connected with both Area I: Career Planning and Exploration and Area III: Educational and Vocational Development.

For both the middle and high school forms, strong internal consistency estimates at the

category level were found. Also, item means and standard deviations suggested that ceiling effects would not be a problem. That is, students did not over-endorse values at the "very high confidence" end of each item. Category factor scores appear to have the necessary variance to be able to detect pre/post change. Substantive differences in category factor scores due to gender, being an African or Caucasian American, and age were not found. Some statistically significant relationships were found but the magnitude of these correlations and the minimal explained variance suggested that statistical significance was primarily due to our large sample sizes.

The present study reports psychometric data supporting the development of statewide, norm-referenced guidance competency self-efficacy scales for middle and high school students. Resulting guidance category scale scores provide a practical and useful method to measure student-perceived ability to successfully perform task-specific guidance competencies. Serving as dependent measures, these scale could provide a practical means to assist school counselors in improving classroom intervention strategies. Future scale construction research will focus on three issues. First, building on previous research (Hughey et al., 1993; Lapan et al., 1992; Multon et al., in press), data supporting the high school and middle school forms of the MCGES's ability to measure change and demonstrate criterion validity will be expanded. Second, data establishing appropriate levels of test-retest reliability for the instruments will be gathered. Third, increasing minority representation in both the middle and high school normative state samples will be highlighted. Statewide data collection efforts to accomplish these three goals are currently underway.

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Table 1

Factor Score Means, Standard Deviations, Theta Reliability Estimates, Second Order Factor Loadings, and Communality Estimates for the Missouri Comprehensive Guidance Evaluation Survey (MCGES: Grades 9-12)

Categories	Factor		Theta	Second Order Factors			
	M	SD	r2	I	II	III	h2
A: Planning and Developing Careers	6.95	1.36	.84	.21	-.02	.75	.79
B: Understanding and Accepting Myself	7.58	1.32	.85	.14	.69	.04	.66
C: Understanding How Being Male or Female Relates to Jobs/Careers	7.85	1.37	.77	-.07	.43	.43	.51
D: Making Decisions About College	6.53	1.51	.87	.23	-.02	.70	.73
E: Preparation for Finding Jobs	6.65	1.38	.82	.78	.08	.05	.75
F: Making Decisions	7.21	1.18	.87	.36	.44	.21	.77
G: Learning Consumer and Home-Owner Skills	7.07	1.48	.82	.78	.06	-.04	.62
H: Understanding and Getting Along with Others	8.04	1.29	.81	-.04	.80	.08	.68
I: Finding Jobs	6.69	1.42	.82	.88	-.06	.05	.77
J: Improving Basic Skills and Study/Learning Skills	6.63	1.35	.86	.41	.24	.24	.60
K: Knowing How Drugs and Alcohol Affect Me and My Friends	8.09	1.20	.77	.02	.74	.00	.57
L: Planning High School Classes	7.24	1.26	.76	.03	-.01	.85	.75
M: Learning from Friends and Others Who Have Graduated	6.60	1.39	.85	.73	.09	.04	.66
N: Learning How to Use Leisure Time Now and in the Future	7.94	1.16	.71	-.08	.37	.43	.44
O: Vocational Selection and Training	6.46	1.48	.83	.67	.01	.18	.64
P: Learning about Marriage and Family Responsibilities	7.20	1.33	.85	.15	.66	-.11	.49

Note: All factor loadings $\geq$ .40 have been underlined. h2 = communality estimates.

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Table 2

Factor Score Means, Standard Deviations, Theta Reliability Estimates, Second Order Factor Loadings, and Communality Estimates for the Missouri Comprehensive Guidance Evaluation Survey (MCGES: Grades 6-9)

Factor Categories	M	SD	Theta r2	Second Order Factors I	II	III	h2
A: Planning and Developing Careers	7.03	1.40	.78	-.09	.45	.59	.72
B: Understanding and Accepting Myself	7.75	1.42	.87	.71	.12	.15	.79
C: Understanding How Being Male or Female Relates to Jobs/Careers	7.01	1.56	.80	.31	-.21	.71	.66
E: Preparation for Finding Jobs	6.67	1.57	.83	.06	.83	.01	.76
F: Making Decisions	7.35	1.30	.84	.70	.14	.17	.81
H: Understanding and Getting Along with Others	8.27	1.35	.77	.81	-.07	.16	.74
J: Improving Basic Skills and Study/Learning Skills	7.07	1.50	.86	.64	.33	-.08	.70
K: Knowing How Drugs and Alcohol Affect Me and My Friends	8.76	1.31	.77	.65	.20	-.03	.58
M: Learning from Friends and Others Who Have Graduated	6.69	1.47	.75	.14	.80	-.03	.77
N: Learning How to Use Leisure Time Now and in the Future	7.40	1.30	.88	-.07	.18	.79	.73
O: Vocational Selection and Training	8.03	1.41	.82	.21	.71	.09	.81
P: Learning about Marriage and Family Responsibilities	7.82	1.54	.71	.88	.04	-.07	.75

Note: All factor loadings $\geq$ .40 have been underlined. h2 = communality estimates.

Table 3

Correlations between Factor Scores on the Missouri Comprehensive Guidance Evaluation Surveys (MCGES: Forms 9-12 and 6-9) and Demographic Data for Middle and High School Students

Categories	High School Students			Middle School Students		
	Sex	Race	Age	Sex	Race	Age
A: Planning and Developing Careers	.01	-.06	.04	.01	-.10*	-.01
B: Understanding and Accepting Myself	-.02	-.10*	.03	-.01	-.13*	-.10*
C: Understanding How Being Male or Female Relates to Jobs/Careers	.18*	.01	.05	.13*	.01	.04
D: Making Decisions About College	.03	-.06	.01	--	--	--
E: Preparation for Finding Jobs	.03	-.12*	.14*	-.04	-.09*	.04
F: Making Decisions	.01	-.07	.03	.03	-.08*	-.06
G: Learning Consumer and Home-Owner Skills	-.23*	-.05	.07	--	--	--
H: Understanding and Getting Along with Others	.19*	-.06	.01	.14*	-.01	.01
I: Finding Jobs	-.10*	-.07	.07	--	--	--
J: Improving Basic Skills and Study/Learning Skills	.01	-.10*	-.03	.08*	-.05	-.14*
K: Knowing How Drugs and Alcohol Affect Me and My Friends	.14*	-.04	.02	.10*	-.04	-.12*
L: Planning High School Classes	.05	.06	.03	--	--	--
M: Learning from Friends and Others Who Have Graduated	-.01	-.04	.06	--	--	--
N: Learning How to Use Leisure Time Now and in the Future	-.01	.03	.02	-.10*	-.06	-.02
O: Vocational Selection and Training	-.07	-.06	.06	.04	-.07	.03
P: Learning about Marriage and Family Responsibilities	.15*	.01	.04	.03	-.04	.06

Note. Dashes indicate that the category is not a part of the middle school form. Bonferroni correction used for multiple comparisons, so only correlations with significance levels of $p \leq .001$ are indicated by a *. Sex (male = 0, female = 1). Race (Caucasian American = 0, African American = 1).

ATTACHMENT B

Missouri Guidance Competency Evaluation
1994 Intervention Studies

School: . DISTRICT: .
Level: High School Intervention: 14 Grade: 10

Pre-Test Frequency: 110 Post-Test Frequency: 110

	Category	Pre-Test Mean	N	Std.Dev.	Post-Test Mean	N	Std.Dev.	Pre/Post Mean Difference	Level of Significance
*	A. Planning and Developing Careers	47.1750	105	9.8659	52.2613	109	8.1361	& 5.0863	.01
	B. Understanding and Accepting Self	49.6516	107	8.1202	51.7515	108	6.7044	2.0999	.01
	C. Understanding How My Gender Affects Jobs and Careers	49.2710	109	8.7849	51.4306	106	8.2629	2.1597	.01
	D. Making Decisions about College	47.5792	106	8.4160	52.2630	109	7.9373	& 4.6839	.01
	E. Preparation for Finding Jobs	46.3680	108	9.4419	49.3960	106	8.1719	& 3.0280	.01
	F. Making Decisions	49.0188	108	8.3444	51.2199	106	7.6327	2.2011	.01
	G. Learning Consumer and Homeowner Skills	46.5421	106	9.9302	51.0366	106	8.5161	& 4.4945	.01
	H. Understanding and Getting Along with Others	49.7139	110	9.2093	51.0028	108	7.5456	1.2889	.01
	I. Finding Jobs	47.1848	107	9.8023	51.7971	103	7.9246	& 4.6122	.01
	J. Improving Basic Skills and Study/Learning Skills	49.8019	106	8.3216	52.1661	106	8.1043	2.3641	.01
	K. Knowing How Drugs and Alcohol Affect Me and My Friends	48.2655	107	8.2167	50.2118	110	7.1820	1.9464	.01
	L. Planning High School Classes	47.1199	104	9.8665	50.8096	107	7.6901	& 3.6897	.01
	M. Learning From Friends and Others Who Have Graduated	47.9794	109	8.8499	50.7237	105	8.3118	2.7443	.01
	N. Learning How to Use Leisure Time Now and in the Future	47.5439	108	8.3936	49.3968	109	9.0415	1.8530	.01
	O. Vocational Selection and Training	48.9582	110	8.7589	53.3667	106	7.8868	& 4.4085	.01
	P. Learning About Marriage and Family Responsibilities	47.6583	108	9.7015	50.1868	108	8.4725	2.5285	.01

'*' indicates that the intervention involved work in this category.

'&' indicates that the difference in means has practical significance in an educational context.

ATTACHMENT C

Missouri Comprehensive Guidance Program
Results Evaluation

PROGRAM COMPONENTS	TYPE OF EVALUATION		DOCUMENTATION
	PROCESS	RESULTS	
Guidance Curriculum			
Guidance Units/Activities	Number of Guidance Units/Activities Completed	Guidance Competencies Attained (Self-Report)	Missouri Guidance Competency Evaluation Survey - Pre/Post
		Guidance Competencies Attained (Self-Report verified by counselor or teacher)	Student Guidance Competency Checklist - Post
		Guidance Competencies Attained (Student Behavior,Writing)	Counselor/Teacher Administered Evaluation - Post
Conflict Resolution Program		Office Referrals and Suspensions	Office Logs
Individual Planning			
Student Education Career Plans	Student Education/ Career Plans Number in Use	Student Education/ Career Plans Checklist (verified by counselor or teacher)	Student Education/Career Plans

PROGRAM COMPONENTS	TYPE OF EVALUATION		DOCUMENTATION
	PROCESS BASED	RESULTS BASED	
Responsive Services			
Small Group Counseling	Number of Small Group Counseling Sessions	Improved Personal/ Social Skills	Case Studies
Aggression Replacement Training	Number of Agression-Replacement Training Sessions	Number of Office Referrals and Suspensions	Office Logs
Counseling	Number of Student Counseling Sessions	Student Perceptions	Weekly Planner Counseling Evaluation Form
Referral	Number of Referrals to In-School Professionals and Out-of-School Agencies	Satisfaction with Referrals	Weekly Planner Referral Satisfaction Form
Consultation	Number of Consultations with Parents	Parent Perceptions	Weekly Planner Parent Consultation Evaluation Form
	Number of Consultations with Teachers	Teacher Perceptions	Weekly Planner Teacher Consultation Evaluation Form

PROGRAM COMPONENTS	TYPE OF EVALUATION		DOCUMENTATION
	PROCESS BASED	RESULTS BASED	
System Support			
Staff Development	Number of Staff Inservice/Development Presentations and Activities	Staff Evaluations	Weekly Planner Staff Evaluation Form
Guidance Program Management	Overall Guidance Program Use/Satisfaction	Student Perceptions	Use/Satisfaction Survey
		Teacher Perceptions	Use/Satisfaction Survey
		Parent Perceptions	Use/Satisfaction Survey
		Administrator Perceptions	Satisfaction Survey

ATTACHMENT D

ADVANCE QUESTIONS
BOARD OF EDUCATION

GUIDANCE AND COUNSELING

30. There is a clearly written plan for guidance and counseling.

31. The guidance program is an integral part of the district's services.

ADVANCE QUESTIONS
INSTRUCTIONAL ASSISTANTS

GUIDANCE AND COUNSELING:

28. Counselors support the work of teachers and instructional assistants by giving advice about individual students.

29. Counselors work with individual students and small groups of students.

ADVANCE QUESTIONS
School Health Professionals

GUIDANCE

15. Counselors meet with students individually or in groups to address personal, physical and/or mental health problems.

16. Students are referred to other professional resources of the school and community as appropriate.

17. Counselors inform staff and community about the aims and purposes of the guidance program.

ADVANCE QUESTIONS
CLASSROOM TEACHERS

GUIDANCE AND COUNSELING

76. The guidance program provides classroom instructional activities for students on a regular basis.

77. Counselors work with the students to assist them with their personal concerns.

78. Counselors assist students with their educational and career plans.

79. Counselors consult with staff and parents concerning students' personal and academic progress.

80. Counseling is provided for individuals and small groups.

81. Students are referred to other professional resources of the school and community as appropriate.

82. Counselors inform staff and community about the aims and purposes of the guidance program.

83. Counselors assist teachers in interpreting test scores and other data about students' performance.

ADVANCE QUESTIONS
LIBRARY MEDIA PROGRAM

GUIDANCE AND COUNSELING

61. The guidance program provides classroom instructional activities for students on a regular basis.
62. Counselors work with students to assist them with their personal concerns.
63. Counselors assist students with their educational and career plans.
64. Counselors consult with staff and parents concerning student's personal and academic progress.
65. Students are referred to other professional resources of the school and community as appropriate.
66. Counselors inform staff and community about the aims and purposes of the guidance program.
67. Counselors assist teachers in interpreting test scores and other data about students' performance.

ADVANCE QUESTIONS
BUILDING ADMINISTRATION

GUIDANCE AND COUNSELING

43. The guidance program in this attendance center is an integral part of the school's curriculum.
44. There is a written definition and philosophy for the guidance program.
45. The guidance facilities are appropriate and correlate with the goals of the program.
46. Guidance resource materials and equipment are available and appropriate for the goals of the guidance program.
47. Funds are specifically designated to fully support the guidance program and are separate from the testing budget.
48. Counselors provide structured, developmental learning experiences through classroom and group activities.
49. Counselors work with students to assist them with their personal concerns.
50. Counselors assist students with their educational and career plans.
51. Students are referred to other professional resources of the school and community as appropriate.
52. Procedures are in place for management activities that enhance the total guidance program.

ADVANCE QUESTIONS
SPECIAL SERVICES TEACHERS

GUIDANCE AND COUNSELING

62. The counselors provides classroom instructional activities for students on a regular basis.
63. Counselors work with the students to assist them with their personal concerns.
64. Counselors assist students with their educational and career plans.
65. Counselors consult with staff and parents concerning students' personal and academic progress.
66. Students are referred to other professional resources of the school and community as appropriate.
67. Counselors assist teachers in interpreting test scores and other data about students' performance.

ADVANCE QUESTIONS
SUPERINTENDENT/CENTRAL OFFICE ADMINISTRATION

GUIDANCE AND COUNSELING

40. The guidance programs in this district are an integral part of the school's curriculum.

41. There is a written definition and philosophy for the guidance program.

42. The guidance facilities are appropriate and correlate with the goals of the program.

43. Funds are specifically designated to fully support the guidance program and are separate from the testing budget.

44. Counselors provide structured, developmental learning experiences through classroom and group activities.

45. Counselors work with the students to assist them with their personal concerns.

46. Counselors assist students with their educational and career plans.

47. Students are referred to other professional resources of the school and community as appropriate.

48. Procedures are in place for management activities that enhance the total guidance program.

ADVANCE QUESTIONS
COMPREHENSIVE GUIDANCE AND COUNSELING
Grade K-12

1. A clearly written curriculum is available for guidance.

2. The guidance program was developed with input from the teachers, community, administration and board of education.

3. Guidance staff played a major role in developing the guidance curriculum.

4. The guidance program provides continuity between elementary grades, middle level, and high school.

5. The guidance curriculum is reviewed and revised regularly.

6. The school administration provides clear support and direction in guidance program development.

8. Assessment data have been useful in identifying educational strengths and weaknesses.

9. The guidance program staff regularly assists teachers in interpreting test scores.

45. There is a written definition for the guidance program.

46. There is a written philosophy for the guidance program.

47. There is a properly equipped office for each counselor.

48. There is adequate storage space for the guidance program.

49 Space is available for individual and small group activities through the guidance program.

50. An advisory council has been established for the guidance program.

51. Community resources for the guidance program have been identified.

52. There is an organizational structure for the guidance program which shows district/building level personnel and designated responsibilities.

53. Funds are specifically designated to fully support the guidance program and are separate and distinct from the school testing budget.

54. The guidance department implements curriculum units or activities with clearly defined intent and purpose.

55. The guidance curriculum adequately addresses identified student needs and competencies.

56. Structured, developmental learning experiences are presented systematically through classroom and group activities. (Curriculum Component)

57. The guidance department maintains a master program calendar to verify and account for program activities.

58. A needs assessment has been carried out which identifies student/community priorities, including those students who are handicapped and/or disadvantaged.

59. The competencies identified through the needs assessment process are reviewed on a regular basis by administration and guidance staff.

60. A procedure is in place which will provide an indication of student guidance competency attainment as a result of guidance program activities.

61. There is a plan that helps students to assess and interpret data and information related to their abilities, interests, skills, and achievement.

62. There is a plan for counselors to use individualized appraisal information to help students realize their personal, educational and career goals.

63. The guidance department provides assessment, advisement and placement activities that help students manage their personal and career development. (Individual Planning Component)

64. The guidance department has a procedure to consult with students, parents and other educators.

65. The guidance department provides counseling on a small group and individual basis and a schedule is maintained of these contacts.

66. The guidance department provides counseling and other supportive activities to students and families facing emergency situations.

67. Students are referred to other professional resources of the school and community when appropriate and a record is maintained of these referrals. (Responsive Services Component)

68. A procedure has been developed to evaluate guidance program activities, to collect follow-up information and to refine and update curriculum units.

69. There is an orientation process to acquaint staff and community with the aims and purposes of the guidance program.

70. Counselors are involved in developing activities that will increase student knowledge about community resources, employment opportunities and local labor market trends.

71. Counselors meet with appropriate school personnel to discuss such issues as policies, procedures, and activities related to student transition and program placement.

72. Procedures are in place for management activities that enhance the total guidance program. (System Support Component)

74. There are sequential program activities at each grade level which enable students to make appropriate career decisions.

76. School counselors attend professional meetings and contribute to professional literature when appropriate.

81 The guidance program has adequate financial support from the school district for professional development.

86. The guidance department assists teachers and administrators in systematically identifying students at risk of school failure.

98. There is a job description for counselors at all levels directly based on the guidance program structure.

100. Secretarial or clerical personnel are assigned to assist the guidance department staff members.

Missouri School Improvement Guidance Items Categorized by Implementation Issues and Structural and Program Components

	Implementation issues	Structural						Program			
		D/P	F	AC	R	SP	B	GC	IP	RS	SS
Board of Education	30 31										
Instructional Assistant										29	28
School Health										15 16	17
Classroom Teachers								76	78	77 79 80 81	82 83
Library Media								61	63	62 64 65	66 67
Building Administration		43 44	45	46		47		48	50	49 51	52
Special Services								62	64	63 65 66	67
Counselors	2 4 6 57 58 59 74 98	45 46	47 48 49	50	51	52 100	53	1 3 5 54 55 56	8 61 62 63	64 65 66 67	9 60 68 69 70 71 72 76 81 86